

What is claimed is:

1. A battery management system for managing a plurality of subsystem circuits and functions of a mobile communication device powered by a battery, the battery management system comprising:

5 a battery monitoring circuit operable to monitor a present battery capacity and generate a battery capacity signal based on the present battery capacity;

a user interface operable to receive a user input allocation of battery capacity among the subsystem circuits and functions; and

10 a battery management module operable to receive the user input allocation and the battery capacity signal, and selectively to disable each subsystem circuit or function when each subsystem circuit or function has depleted its allocation of battery capacity.

2. The system of claim 1, wherein the battery capacity is measured as a percentage of full battery charge.

15 3. The system of claim 2, wherein the battery management module is operable to monitor the percentage of full battery charge expended by each subsystem circuit or function.

4. The system of claim 2, wherein the battery management module is operable to monitor  
20 the milliamp-hours expended by each subsystem circuit or function.

5. The system of claim 1, wherein the battery capacity is measured as a percentage of total battery time for a fully charged battery.
6. The system of claim 5, wherein the battery management module is operable to monitor  
5 the active time of each subsystem circuit or function.
7. The system of claim 1, wherein the battery monitoring circuit comprises digital monitoring circuitry.
- 10 8. The system of claim 7, wherein the battery management module comprises battery monitoring software code operable to compare the user input allocation to the amount of battery capacity depleted by each subsystem circuit or function to determine whether to selectively disable each subsystem circuit or function.
- 15 9. The system of claim 1, wherein the user interface comprises:  
a display circuit operable to display a status of subsystem circuits and functions; and  
a keyboard circuit operable to receive user input for allocation of battery capacity among the subsystem circuits and functions.
- 20 10. The system of claim 1, wherein the functions comprise a voice function and a data function, and the battery management module is operable to receive the user input allocation and the battery capacity signal, and to selectively disable the voice function or the data function when

the voice function or the data function has depleted its corresponding allocation of battery capacity.

11. The system of claim 1, wherein:

5 the battery monitoring circuit is operable to monitor a present battery temperature; and  
the battery management module is operable to assign to each subsystem circuit and function a corresponding enable temperature, and to selectively disable the subsystem circuits and functions having corresponding enable temperatures greater than the present battery temperature.

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12. The system of claim 1, wherein the functions comprise a voice and a data function, and:  
the battery monitoring circuit is operable to monitor a present battery temperature; and  
the battery management module is operable to disable the voice function while the battery temperature is less than a voice threshold temperature.

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13. The system of claim 12, wherein the battery management module is further operable to instruct the user interface to indicate that the voice function has been disabled.

14. The system of claim 1, wherein the battery is a smart battery, and the battery monitoring  
20 circuit is included in the smart battery.

15. A method for managing a plurality of subsystem circuits and functions of a mobile communication device powered by a battery, comprising:

allocating battery capacity among the subsystem circuits and functions;

comparing a present battery capacity of a battery to respective amounts of battery

5 capacity depleted by the subsystem circuits and functions; and

selectively disabling each subsystem circuit or function after each subsystem circuit or function has depleted its allocation of battery capacity.

16. The method of claim 15, wherein allocating battery capacity among the plurality of

10 subsystem circuits and functions comprises:

receiving a user input allocation of battery capacity among the subsystem circuits and functions; and

allocating battery capacity among the subsystem circuits and functions based on the user input.

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17. The method of claim 15, wherein comparing a present battery capacity of a battery to respective amounts of battery capacity depleted by the subsystem circuits and functions comprises:

monitoring the percentage of full battery charge expended by each subsystem circuit or

20 function; and

comparing the monitored percentages to a present percentage of battery charge of the battery.

18. The method of claim 15, wherein comparing a present battery capacity of a battery to respective amounts of battery capacity depleted by the subsystem circuits and functions comprises monitoring the milliamp-hours expended by each subsystem circuit or function.

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19. The method of claim 15, further comprising:

monitoring a present battery temperature;

assigning to each subsystem circuit and function a corresponding battery temperature enable condition; and

10 selectively disabling the subsystem circuits and functions having corresponding battery temperature enable conditions greater than the present battery temperature.

20. The method of claim 15, wherein the functions comprise a voice and a data function, and further comprising:

15 monitoring a present battery temperature;

assigning a voice threshold temperature to the voice function; and

disabling the voice function while the battery temperature is less than the voice threshold temperature.

20 21. The method of claim 20, further comprising notifying a user that the voice function has been disabled.

22. The method of claim 20, further comprising enabling the voice function while the present battery temperature is greater than the voice threshold temperature.